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DEFINITE IMPROVEMENT OF READING ABILITY IN A FOURTH-GRADE CLASS[1]

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The study reported here was made as a part of class work in a course entitled "Special Problems in Teaching" given at the University of Cincinnati by Miss Frances Jenkins. Members of the class were experienced teachers confronted by the many problems which constantly arise in every live schoolroom. In the fall, each teacher selected a particular phase of classroom work which presented a vital difficulty. This problem was investigated during the course of the year and reported on toward the end of the term. In my fourth-grade class, the subject of reading caused more trouble than any other in the curriculum. The progress of several children was impeded by an exceptionally slow rate of reading combined with a marked inability to derive a proper number of ideas from the text. The idea of devising means for improving the rate of both oral and silent reading, and also of improving the ability of the children to secure an adequate number of ideas from the printed page defined the scope of my work—a work which was to be made objective by the use of reading tests. Eventually, the problem was reduced to the following statement: How to accelerate the silent-reading rate of a selected number of poor readers.

SELECTION OF CASES THROUGH READING TESTS

In order to select the children who were the poorest readers, forty-three fourth-grade children were tested in the following manner:

1. A quarter-sheet of paper is passed to each child. These directions are given: (*a*) Write name in ink on first line. (*b*) The words "Number of page,"

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[1] The experiment described in this article was carried on at the Oyler School, Cincinnati, Ohio.

on second line. (*c*) The word "Line," on third line. (*d*) The word "Sentence," on fourth line. (*e*) Skip two lines. (*f*) Beginning on the seventh line, number lines from 1 to 10. (*g*) Place the pen in the groove on the desk.

2. Explain to the children that they are later to read silently. They are to do the best that they can and are not to ask questions if they do not know the meaning of a word. They will afterward answer some questions based on what they have read.

3. Pass the readers and announce the number of the page. The teacher reads aloud to the bottom of the page and stops, noting the exact time. The children read silently for one minute and at a given signal all books are closed. Each child reproduces the last line read, writing it in the space provided after the word "sentence." He will not ordinarily write it in its exact form, but the teacher will be able to judge how far the child has read. The books are now collected.

4. The teacher asks ten questions, requiring a one-word answer to each. Typical test questions based on the story of "Davy and the Goblin," page 90, *The Riverside Fourth Reader*, are as follows:

QUESTIONS

1. Who said, "Oh, if you please, I can't go"?
2. Who said, "Rubbish. Ask the colonel"?
3. Who was a silly looking little man made of lead?
4. Where did he stand?
5. What did he hold in his arms?
6. Who felt quite safe in looking up at him and asking permission to go on the Believing Voyage?
7. Who nodded his head and cried out in a little cracked voice, "Why certainly"?
8. Who jumped down off the knob of the andiron?
9. What fell over on its face upon the floor, as softly as if it had been a feather bed?
10. What was really a sort of boat?

ANSWERS

1. Davy
2. Goblin
3. Colonel
4. Mantel-shelf
5. Clock
6. Davy
7. Colonel
8. Goblin
9. Clock
10. Clock

The papers are collected.

Six of these tests were given during November. The material used consisted of selections from *The Riverside Fourth Reader*.

Not all the children were present for all the tests, but each was present a sufficient number of times to enable the writer to determine the median accomplishment of each one, both for the rate of silent reading and for the number of ideas retained.

The table on page 155 of *Measuring the Work of the Public Schools*, a volume of the Cleveland survey report, by Charles H. Judd, suggested the method for the selection of the cases for special instruction. The records were arranged in order from the most rapid to the slowest and grouped as closely as practicable on the basis of the following divisions: in the class of "rapid" records were included the most rapid 25 per cent; in the class of "slow" records were placed the slowest 25 per cent; the remaining 50 per cent, or approximately one-half of the entire number of records, were designated as "medium."

Arbitrarily, those records containing eight or more correct answers were placed in the "good" class. Those records which showed four and above, but less than eight correct answers, were placed in the "medium" division; and those with less than four correct answers were designated "poor." Consequently, an individual record would fall in one of nine groups, as shown in Table I.

The group of children requiring special instruction was now clearly defined. Their serial numbers on the chart range from 34 to 43. Although the problem under consideration dealt primarily with the silent-reading rate, the children had been tested orally for purposes of comparison. The data upon which to work consisted of the rates of both silent and oral reading as well as the number of ideas retained. The definite problem, then, was to speed up these poor readers.

METHODS OF ACCELERATING THE RATE OF READING AND OF INCREASING THE NUMBER OF IDEAS RETAINED

Discussing the problem of the rate of silent reading, William S. Gray[1] lists the following as factors influencing speed: (1) The care with which one reads. The reading rate varies with the attention given to the thought of the selection. (2) Familiarity with the subject-matter. (3) Lip movements. (4) Habits of eye movement. (5) Power of assimilation. (6) Length of words. According to Quantz,[1] the factors which contribute to a rapid reading rate are in order of importance: (1) visual perception; (2) practice as determined by amount of reading from childhood on; (3) power of concentration. Huey and Dearborn expressed the belief that the reading rate might be increased by practice.

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[1] W. S. Gray, *Studies of Elementary-School Reading through Standardized Tests.* Supplementary Educational Monographs, Vol. I, No. 1.

TABLE I

SCORES OF FORTY-THREE FOURTH-GRADE PUPILS IN RATE AND COMPREHENSION OF READING ON TEST GIVEN IN NOVEMBER

No.	Lines	Ideas	No.	Lines	Ideas	No.	Lines	Ideas
Rapid and Good			Medium and Good			Slow and Good		
1	28.5	8.5						
2	28.5	8.5						
3	28.5	8.5						
Rapid and Medium			Medium and Medium			Slow and Medium		
4	31.5	5.5	12	20.5	5	32	4.5	4.5
5	24	6	13	19	5	33	4	4
6	22	7	14	19.5	4.5			
7	21.5	5	15	17	6			
8	21	5	16	15	7			
9	21	5	17	15	6			
			18	14.5	5			
			19	14	4.5			
			20	12	4			
			21	11.5	4			
			22	10	4			
			23	9.5	4			
			24	7	4.5			
Rapid and Poor			Medium and Poor			Slow and Poor		
10	25	1	25	14	3	34	5	1.5
11	21	3	26	14	2	35	5	1.5
			27	12	1.5	36	5.5	0
			28	10	3	37	5	3
			29	10	3	38	4	2.5
			30	10	3	39	4	2.5
			31	8	3	40	4	2.5
						41		3
						42		2
						43		2

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[1] J. O. Quantz, *Problems in the Psychology of Reading.* Psychological Review Monograph Supplements, Vol. II, No. 1 (1897).

Such are the significant findings of research workers in this particular field. How may I apply them to my own problem?

These children must become vitally interested in reading. The desire to read must be made paramount before they will conscientiously undertake the mastery of the mechanics of reading. To stimulate this desire, I worked with the children individually to find out their particular interests. I pasted pictures on cardboard with a simple little story beneath. At some odd moment during the day a particular child would be called to me, to whom I would show the picture and ask the question, "What would you like to know about this picture?" After the child had responded, I would say, "Would you like to read this little story and find the answer for yourself?" Usually the child was willing to do so. At all times I helped with the hard parts. As soon as the child was able to read the selection as well as possible under the circumstances, the card was his own.

Another method was this. I told part of a story and then referred the children to the reader to find the climax for themselves.

Library books containing illustrations were frequently presented. If the child was sufficiently interested to attempt to find out what the pictures were about, he might have the book. The children were taken to the library and taught how to find books for themselves. In some instances, the parents refused to let their children have library cards; but, with one exception, each child now has a personal library card.

Eight children in this group were lip-movers. I told them that I knew a secret about something that happens to some people's lips when they are reading to themselves. I wouldn't tell the secret; they must find out for themselves by watching their parents as they read the newspaper, and their schoolmates as they prepare their lessons. Very soon the secret leaked out. One small boy reported that he had seen an old man in the street car who moved his lips as he read a book. He illustrated the account, and the children immediately realized how foolish a lip-mover appears. Thereafter many a finger was pressed tightly over the lips to keep them in place.

In working along the lines of word-grouping in the early stages, the simple device of having the pupils find nouns with their qualifying adjectives was employed. The children selected such groups as a "naughty, disobedient prince," or "a very strange looking house." Then we selected phrases, such as "in the garden" and "by the sea." These were combined into larger and larger groups. In the beginning, the children's oral reading was disconnected and choppy. The results of this work appeared in a more natural rendition of the text.

TESTING TO MEASURE RESULTS

In May, six tests of the same nature as the November tests were given to the forty-three members of the class. The records were again grouped into nine divisions, classified as in Table I. The results are shown in Table II.

For convenience in comparing the records of individual pupils in the two sets of tests, each pupil is assigned the same serial number in Table II as in Table I. In making such comparisons for any given individual, however, it should be noted that, as regards rate of reading, the basis of classification is relative, so that an absolute gain in speed may not result in a change of position to a different group. This effect is readily perceived in the "slow" records of the two tables. The highest score made by any pupil who was classified in the slow groups in the first table is 5.5, while more than half the scores are below 5. In the slow groups of Table II, on the other hand, there is only one score as low as 5, all others being above the highest score of those similarly classified on the basis of their records in the previous tests. The position of each of the serial numbers 34 to 43 in the second table indicates at once the progress made by the members of this special group as compared with the entire class. One pupil (42) is advanced to the rapid group, ranking with the highest one-fourth of the class. Two others (39 and 41) are placed in the medium group, making within one and two points, respectively, of the highest score that falls in this group. Of the seven pupils remaining in the slow divisions, two (34 and 36) have surpassed the records of three who were classed as medium in November. From the point of view of the number of ideas retained, with respect to which the pupils are classified on the basis of a scale of absolute values, six of the ten members of the special group have advanced to positions in the medium group. The absolute gain in both speed and comprehension for each of these ten pupils is shown in Table III.

TABLE II

SCORES OF FORTY-THREE FOURTH-GRADE PUPILS IN RATE AND COMPREHENSION OF READING ON TEST GIVEN IN MAY

No.	Lines	Ideas	No.	Lines	Ideas	No.	Lines	Ideas
Rapid and Good			Medium and Good			Slow and Good		
3	37	8.5	8	21	8.5			
1	30.5	9	9	21	8			
7	27.5	8	2	20	9			
15	26	9	16	18	9			
6	24	9	10	15	8			
			11	15	8			
Rapid and Medium			Medium and Medium			Slow and Medium		
12	29.5	7.5	39	20	7	34	11	6
4	29.5	6.5	41	19	7.5	20	10	7
5	27.5	6	17	17.5	6	24	10	7
32	24.5	6.5	13	17	5.5	37	8	6.5
42	24.5	5	14	16	7.5	33	7	6
18	22	7.5	19	16	6	38	7	6
			22	16	6	30	6	6
			25	16	5			
			21	15.5	5.5			
			31	14	5			
			23	13	7			
			29	12	6			
			28	11.5	5			
Rapid and Poor			Medium and Poor			Slow and Poor		
			27	15	3	26	11	3.5
						36	11	2
						35	10	2
						40	6	2.5
						43	5	2.5

In every instance, the reading rate has been accelerated and, with but one exception, the number of ideas increased.

In summing up the effect of this experiment upon the entire class the following facts may be noted:

1. The records obtained from the tests in oral reading show that in all except two cases, in one of which the rate remained

stationary, the oral-reading rate of each child in May is more rapid than in November.

2. The data concerning the rate of silent reading in November and in May show a retrogression in nine individual records. In six cases this fact may be attributed to absence due to ill health. With the exception of two pupils who make the same score in the two tests, the reading rate of the rest of the class in May reveals a decided improvement over the November tests.

TABLE III

SCORES OF TEN "SPECIAL" PUPILS IN RATE AND COMPREHENSION OF READING IN NOVEMBER AND MAY

Number	Lines Read Per Minute		Ideas	
	November	May	November	May
34	5	11	1.5	6
35	5	10	1.5	2
36	5.5	11	0	2
37	5	8	3	6.5
38	4	7	2.5	6
39	4	20	2.5	7
40	4	6	2.5	2.5
41	....	19	3	7.5
42	....	24.5	2	5
43	....	5	2	2.5

3. The records show not one case of retrogression in the number of ideas retained in May as compared with November, while only four pupils have the same median score in both instances. All the other children show a more or less marked improvement in this respect.

4. The most rapid reader is credited with 28.5 lines in November. In May the most rapid reader achieves an average of 37 lines per minute. The most rapid reader in May is credited with the same number of ideas as the most rapid reader in November, namely 8.5.

The conclusions to be drawn are self-evident. Generally speaking, there has been an acceleration of both the oral- and silent-reading rates of the entire class as well as a decided improvement in the number of ideas retained.